

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT



WRITTEN OPINION OF THE
INTERNATIONAL PRELIMINARY
EXAMINING AUTHORITY

(PCT Rule 66)

To:

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Date of mailing
(day/month/year)

31. 8. 2004

Applicant's or agent's file reference

CFO17633WO

REPLY DUE

within **2 months** from
the above date of mailing

International application No.

PCT/JP 03 / 13177

International filing date (day/month/year)

15. 10. 2003

Priority date (day/month/year)

16. 10. 2002

International Patent Classification (IPC) or both national classification and IPC

Int.Cl. **H01M 8/02, H01M 4/88, H01M 8/10**

Applicant

CANON KABUSHIKI KAISHA

1. ☐ The written opinion established by the International Searching Authority:
☐ is ☐ is not

considered to be a written opinion of the International Preliminary Examining Authority.

2. This **first** (first, etc.) opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(e).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary report on patentability (Chapter II of the PCT) must be established according to Rule 69.2 is: **16. 02. 2005**

Name and mailing address of the IPEA/JP

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Box No. I

Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This opinion is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this opinion has been established on the basis of (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."*):

- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages _____ as originally filed/furnished
- pages _____ received by this Authority on _____
- pages _____ received by this Authority on _____
- ☐ the claims:
- pages _____ as originally filed/furnished
- pages _____ as amended (together with any statement) under Article 19
- pages _____ received by this Authority on _____
- pages _____ received by this Authority on _____
- ☐ the drawings:
- pages _____ as originally filed/furnished
- pages _____ received by this Authority on _____
- pages _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to the sequence listing (specify): _____

4. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to the sequence listing (specify): _____

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Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	2-3, 5, 7-13	YES
	Claims	1, 4, 6	NO
Inventive step (IS)	Claims	none	YES
	Claims	1-13	NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims	none	NO

2. Citations and explanations

- D1: WO 00/15547 A2(SUPERIOR MICROPOWDERS LLC)2000.03.23
page57 lines10-page58 lines12,
page61 lines12-page62 lines9,
FIG.38
& US 6103393 A & JP 2003-528419 A
D2: US 6210245 B1(Sando et al.)2001.04.03
column16 lines47-column23 lines42,
FIG.1-24
& JP 11-25851 A
D3: JP 11-233006 A(CANON KABUSHIKI KAISHA)1999.08.27
[0073]-[0088],
FIG.1-12
D4: US 2002/0071980 A1(Tabata et al.)2002.06.13
whole document
& JP 2001-345110 A

The subject matter of claim 1,4,6 does not meet the requirement of novelty and does not appear to involve an inventive step in view of the D1 cited in the ISR.

D1 discloses a manufacturing process for a fuel cell comprising the step of ejecting an electrode catalyst composition containing conductive carbon by an ink-jet process on a layer-forming surface on which each electrode catalyst layer is to be formed.

The subject matter of claim 2 does not appear to involve an inventive step in view of the D1 cited in the ISR.

It is well known that a composition is ejected the same a plurality of times by the ink-jet process within the same one pixel.

The subject matter of claim 3,8-9,11-12 does not appear to involve an inventive step in view of the D1, D2 and D3 cited in the ISR.

A skilled person in the art would easily carry out applying the technical matter disclosed in D2 and D3 respectively, ejecting in a droplet quantity of from 1 pl to 100 pl per droplet to the manufacturing process for a fuel cell disclosed in D1.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: **Box No. V**

The subject matter of claim 5,10 does not appear to involve an inventive step in view of the D1 , D2 , D3 and D4 cited in the ISR.

D4 discloses a fuel cell comprising a diffusion layer between i) at least one of the fuel electrode and the oxidizer electrode and ii) the polymer electrolyte membrane , and the layer-forming surface on which each electrode catalyst layer is to be formed is at least one of the surfaces which are to face each other, of the polymer electrolyte membrane and the diffusion layer. And a skilled person in the art would easily carry out applying the manufacturing process for a fuel cell disclosed in D1 to the fuel cell disclosed in D4.

The subject matter of claim 7,13 does not appear to involve an inventive step in view of the D1 , D2 , D3 and D4 cited in the ISR.

It is well known that a fuel cell apparatus comprises a fuel cell, a housing which houses the fuel cell and an electricity-withdrawing electrode for withdrawing to the outside the electricity generated in the fuel cell.